PROGRAM IN BRIEF

INTEGRATING GENOMICS INTO PUBLIC HEALTH INVESTIGATIONS

WHAT IS THE PUBLIC HEALTH ISSUE?

The Centers for Disease Control and Prevention (CDC) is recognized around the world for conducting public health investigations to respond to health emergencies and improve people's daily lives. Collecting and analyzing human genomic data in public health investigations has the potential to enhance our ability to

- Understand variation in disease outcomes.
- Characterize environmental exposures more accurately.
- Assess the effectiveness and side effects of therapeutics and vaccines.
- Refine public health interventions such as vaccination, chemoprophylaxis, exposure reduction, and behavior modification and education.

WHAT HAS CDC ACCOMPLISHED?

In 2005, CDC moved forward to integrate human genomics into public health investigations by creating a foundation for the following research priorities:

- Assessing public health genomics infrastructure and capacity at CDC and in four state health departments to begin identifying gaps and needs.
- Collecting and summarizing information about CDC IRB-approved research protocols as a basis for developing standard language and best practices for obtaining informed consent for DNA sample collection, storage, and testing.
- Working with individual investigators to develop protocols for specimen collection, transport, and banking.

WHAT ARE THE NEXT STEPS?

- Assess and develop public health genomics capacity by integrating and enhancing CDC laboratory, analysis, and informatics resources.
- Address ethical, legal, and social issues pertinent to collecting family history and genomic information in public health investigations.
- Develop standard guidelines for requesting informed consent, collecting DNA samples, and communicating about genomics with study participants.
- Develop mechanisms for sharing resources (templates, tools, laboratory support).
- Prioritize investigations and conduct pilot studies in collaboration with state partners.